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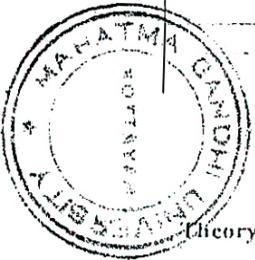
Model I

B. Sc Family and Community Science 2007 Admission

SCHEME AND SYLLABUS

Distribution of hours

Year	Papers	Theory	Practical
First Year	Paper I	2	2
Second Year	Paper II	3	2
Third Year	Paper III	4	2
	Paper IV	4	4
	Paper V	3	4
	Paper VI	2	2



SCHEME OF EXAMINATION

Theory

Year	Paper	Title	Hours	Marks		Total
				Internal	External	
I	I	Physiology & Microbiology	3	10	50	60
II	II	Human Development	3	10	50	60
III	III	Family Resource Management	3	10	50	60
	IV	Food Science and Nutrition	3	10	50	60
	V	Textile Science and Fashion Designing	3	10	50	60
	VI	Elective Subject (Any one)	3	10	50	60
	Total					

Internal Assessment

- Attendance -2 marks
- Test paper (2) -4 marks
- Assignment -2 marks
- Seminar -2 marks
- Total -10 marks

Section A

Year	Paper	Title	Time(hours)	Record (Internal)	Practical (External)	Total
II	II	Human Development and Family relations	-	10	-	10
III	III	Family Resource Management	-	5	-	5
	IV	Food Science and Nutrition	3	5	65	70
	V	Textile and Fashion Designing	3	5	65	70
	VI	Elective	-	5	-	5
<b>Total</b>						<b>160</b>

Internal Assessment

Attendance -2.5

Lab performance -2.5

Section B

Project

External valuation -20 marks

Viva based on project -10 marks

Internal valuation -10 marks

Total -40 marks

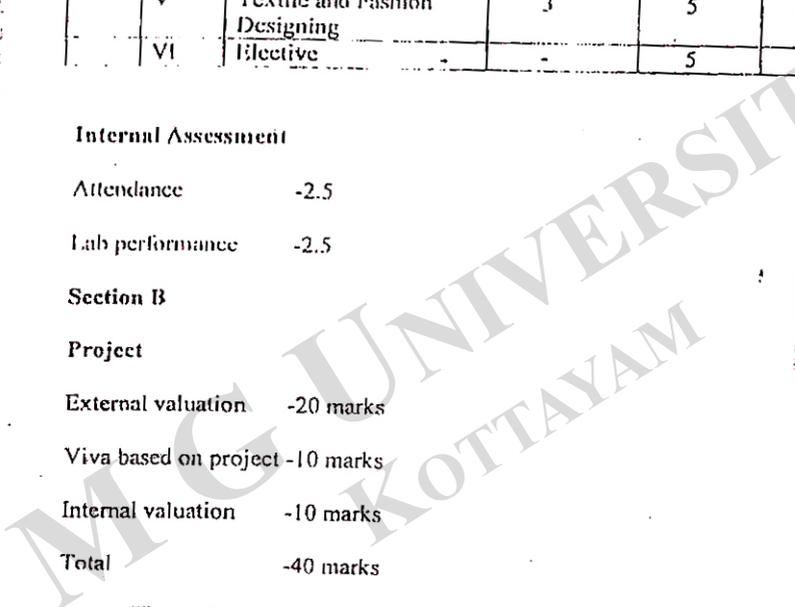
The project should be on any topic related to Family and Community Science. The project certified by the supervising teacher and the certified records should be submitted at the time of practical examination in the third year for external verification and valuation.

Section C

One week's residence stay-40 marks (20 external, 20 internal)

- a) Evaluation by the residence advisor on the various role of the student as the manager, cook, maid, hostess and treasurer based on planning and controlling of the resources.( 10 marks)

Year  
I  
II  
III



- b) Evaluation based on the management qualities such as leadership, co-operation, understanding, punctuality, skills and abilities, originality, hospitality and sociability (10marks).
- c) Reports of the residence stay written in the record (20 marks)

**Total for practical**

Section A	-160
Section B	-40
Section C	-10
Grand Total	-240

**Overall Distribution of Marks**

Category	External	Internal	Total
Theory	300	60	360
Practical	130	30	160
Project	30	10	40
Residence Course	20	20	40
Total	480	120	600

**Pattern of Theory questions and Distribution of marks**

Each questions paper should have 3 sections

**For Paper I**

Section A: 6 questions and one mark for each	-6 marks
Section B: 6 questions out of 8 and four marks for each	-24 marks
Section C: 2 questions out of 4 and ten marks for each	-20 marks
<b>Total</b>	<b>-50marks</b>

**For Papers II, III, IV, and V**

Section A: 5 questions and 2marks for each	-10 marks
Section B: 5 questions out of 8 and four marks for each	-20 marks
Section C: 2 questions out of 4 and ten marks for each	-20 marks
<b>Total</b>	<b>-50 marks</b>

Mark Distribution– Practical Examination (External)

I. Practical –I Nutrition and Dietetics

Food analysis (Quantitative)

Principles	-5 marks
Procedure (written-5, skill-5)	-10 marks
Calculation	-5 marks
Result	-5 marks
<b>Total</b>	<b>-25 marks</b>

OR

Qualitative Analysis

Tests for CHIO (5tests-5x3marks)	-15 marks
Tests for minerals (Ca, P, Fe-3x2marks)	-6 marks
Tests for protein (2x2marks)	-4 marks
<b>Total</b>	<b>-25marks</b>

Diet

Meal planning -10 marks

Preparation-

Selection (4 mark)	
Adequacy (")	
Palatability (")	-20 marks
Presentation (")	
Time and Neatness (")	

Calculation -6 marks

Principles -4 marks

**Total -40 marks**

**Grand Total -65 marks**

## 2. Practical II- Textile Science and Fashion Designing

I	1. Fibre Identification (3x3)	-9 marks	
	2. Weave Identification (2x3)	-6 marks	
	3. Stitched garments	-10 marks	
II	1. Designing		
	Pattern designing	-4 marks	
	Design Features	-1 mark	-5 marks
	2. Drafting	-7 1/2 marks	
	Body measurements	-1 marks	
	Key (grain, fold)	-1 1/2 mark	-10 marks
	3. Cutting and Stitching		
	Grain		
	Seam and Seam finishes		
	Sleeve		
	Collar		
	Neckline		
	Placket		
	Armhole		
	Gathers		
	Darts		
	Fasteners		
	Decorations		-20 marks
	4. Complete work, neatness		-5 marks
	<b>Grand Total</b>		<b>-65 marks</b>

### 3. Residence Course

Introduction	-2 marks
Aims and Objectives	-1 mark
Role of each member	-2 marks
Principles of management	-1 mark
Energy management	-1 mark
Money management	-1 mark
Time management	-1 mark
Organization of the cottage	-2 marks
Party	-2 marks
Personal experience	-2 marks
Evaluation	-2 marks
Conclusion	-1 mark
Presentation	-2 marks
<b>Total</b>	<b>-20 marks</b>

### 4. Project

Introduction (Aims, definition, relevance, etc.)	-3 marks
Review of literature	-3 marks
Method of study	-3 marks
Results and discussion	-5 marks
Conclusion	-2 marks
Reference	-2 marks
Oral presentation	-2 marks
<b>Total</b>	<b>-20 marks</b>

**PAPER I**  
**PHYSIOLOGY AND MICROBIOLOGY**

4 Hours /week

**Objectives**

1. To enable the students to understand the functions of various systems of the body.
2. To learn about different microorganism present in the environment and diseases produced by them and preventive measures.

**Unit -I**

**PHYSIOLOGY**

(2hours/week)

**Course Content: Theory**

1. Introduction, Classification of tissues.
2. Digestive System

Structure and functions of various organs of the gastrointestinal tract (including salivary glands liver pancreas)

Digestion and absorption of food and the role enzymes and hormones

3. Respiratory System

Structure of lungs, mechanism of respiration and its regulations, vital capacity and other volumes, exchange of gases in blood, anoxia.

4. Cardiovascular System

Blood- functions composition, formation of blood cells, blood groups, coagulation of blood.

Heart- structure and functions of heart, properties of heart muscles, heart rate, blood pressure and its regulation, mechanism of circulation.

**Excretory System**

Structure and functions of kidney, urine formation, micturition, role of kidneys in homeostasis, structure and function of skin, regulation of body temperatures.

6. Endocrine System

Structure and functions of adrenal glands, thyroid glands, parathyroid glands, pituitary glands and sex glands.

## 7. Nervous System

Structure of nerve cell, general functions of cerebrospinal nervous system and autonomic nervous system, sympathetic and parasympathetic nervous system, reflex action, special senses (vision, hearing, smell taste and cutaneous sensations)

## 8. Musculoskeletal System

Types of muscles and its functions, formation of bones and teeth.

## 9. Reproductive System

Structure and functions of female reproductive organs (ovaries, uterus, uterine tubes, vagina, mammary glands), ovulation and menstrual cycle.

Structure and function of male reproductive organs (testis, ducts, epididymus, vas deferens, seminal vesicles, prostate glands)

Physiology of pregnancy, parturition, lactation and menopause.

## Related Experiences

Demonstration/Simple experiments:

- a. identification of blood groups
- b. blood count, RBC, WBC
- c. measurement of blood pressure
- d. estimation of serum hemoglobin

## References

1. Clowes, C. J. 1988, Textbook of Medical Physiology, WB Saunders, London
2. Guyton, A.C & Hall, J.E. 1996, Textbook of Medical Physiology, 9<sup>th</sup> ed, Prism books Pvt Ltd Bangalore.
3. Wilson .1989, Anatomy and Physiology in health and illness, Edinburgh, Churchill, Livingstone

Unit - II  
MICROBIOLOGY

Course content: Theory

(2 Hours/week)

1. Study of microorganisms:  
Introduction, classification of microorganisms.
2. Cultivation, Isolation and Identification of Bacteria:  
Cultivation- types of media, inoculation of culture media, incubation, types of culture.  
Isolation- streak plate and pour plate method  
Identification- examination of organisms in living conditions- hanging drop method; staining techniques-simple staining and differential staining, Gram staining, acid fast staining; cultural characteristics, biochemical reaction, serological tests and animal inoculation
3. Control and Destruction of Bacteria:  
Sterilisation- Heat, light, electricity, desiccation, filtration, sedimentation  
Disinfection- Acids, alkalis, halogens phenols, dyes, oxidizing agents, detergent
4. Infection:  
Sources, types, factors influencing infection and transmission of infection.
5. Resistance and Immunity:  
Resistance-Natural defences of the body-primary and secondary  
Immunity- Natural, acquired and innate immunity, active and passive immunity, Antibiotics and sulph drugs, allergy.
6. Bacteria  
Morphology- Structure, shape, size  
Physiology- Motility, reproduction, cell grouping, spore formation and factors affecting growth  
Diseases- Pneumonia, Meningitis, Gonorrhoea, Syphilis, Tuberculosis, Leprosy, Diphtheria, Tetanus, Cholera, Plague, Pertussis.
7. Yeasts:  
Morphology and economic importance.
8. Moulds:  
Morphology, Economic importance of mucor, rhizopus, aspergillus penicillium
9. Protozoa:  
Morphology  
Diseases- amoebic dysentery, malaria.
10. Viruses:  
Morphology and reproduction, Bacteriophages  
Diseases- Chicken pox, Measles, German measles, Mumps, Poliomyelitis, Rabies, Influenza, Yellow fever, Infective hepatitis, AIDS.

11. Microbiology of soil:  
Sources and kinds of organisms; nitrogen cycle; nitrogen fixation.
12. Microbiology of sewage:  
Sources and kinds of organisms ; sewage treatment.
13. Microbiology of water:  
Sources and kinds of organisms; tests for sanitary quality; purification and treatment .
14. Microbiology of air:  
Sources and kinds of organisms, methods of studying organisms; prevention and control .
15. Food spoilage, safety and prevention:  
Contamination of foods, principles underlying spoilage of foods, food sanitation and hygiene, food safety, HACCP

#### Related Experiences

1. Demonstration of microbial growth in food.
2. Determination of total plate count (TPC)
3. Gram staining
4. Inoculation, culturing and isolation of microbes.

#### References

1. Frazier, W.C. & West Hoff, D.C. 1988, Food Microbiology, 4<sup>th</sup> ed, Mc Graw hill
2. Kelmuni, C. 2003, A Text book of Microbiology, Vol. IV United Publishers.
3. Joshua A.K. 1971; Microbiology, India printing works, Madras.
4. Pawar, C.B. And Duginwala, H.F. 1986, General Microbiology, Vol. II, Himalaya Publishing House, Bombay.
5. Luro P, Kapoor E. E. & Yadav, K S 1991, An Introduction to Microbiology .



## PAPER II

### HUMAN DEVELOPMENT & FAMILY RELATIONS

5 Hours/week

#### OBJECTIVES

1. To provide scientific knowledge about children, their behavior and development.
2. To orient the students for adjustment in marriage and parenthood and to prepare them to take the roles of wife and mother effectively.
3. To make the student understand the importance of family interaction in the development of children.
4. To gain knowledge on the far reaching influence of child rearing.
5. To understand the problems of children and the methods to handle them.
6. To help students to meet the needs of exceptional children.
7. To spark student interest in scientific studies in Child Development and behavior.

## Unit II

### Family Relations.

#### Theory:-

1. Marriage :- Definition, Functions, Physical, Emotional, Social and Intellectual maturity needed by the couple. Areas of adjustment, Factors Influencing good marital relationships. Need for pre-marital counseling.
2. Population Education:- Definition, Problems of Over population, Preparation for Responsible Parenthood. Discrimination against girl child. Methods of family planning, The small family Norm.
3. Family- The Basic Institution, Functions, Changing role of family members.
4. Types of family, Merits and demerits of Joint and Nuclear families in relation to child development.
5. Critical Family situations affecting child development:- Infidelity, Desertion, Divorce, Alcoholism, Death, Suicide, Disabilities, Financial Crisis.
6. Contemporary Issues in family life:-Urbanization, Maternal Employment, Neglect of the elderly, Single Parenthood. Influence of electronic media- TV, Computer, Internet & Mobile phone.

#### Related Experiences.

1. Report of Any Two of the following :-
  - a. Interviewing an Adolescent experiencing a crisis in the family
  - b. Interviewing a mother having a disabled Child.
  - c. Discussion on marriage customs among different communities
  - d. Interviewing married couples on their adjustments.
  - e. Interviewing parents on the factors they consider while choosing life partners for their children

#### References:-

1. Atkinson et al(1987) Intro. To Psychology
2. Brisbane (1994) Developing Child, Mc Graw Hill.
3. Chaube (1991) Child Psychology,
4. Craig G.T. (1989), Human development, Prentice Hall, New Jersey.
5. Dehart et al (2000) Child Development
6. Devadas & Jaya (1999) A text Book On Child Development.
7. Fitch S.K. (2001), Child Development
8. Goodee J. W. (1987) The Family. Prentice Hall.
9. Hurllock E.B. (2002) Child Development, Mc Graw Hill.
10. Jupe et al (1985) Child development & family, Macmillan Pub.Co. London.
11. Panda K. C. (2000), elements of Child Development. Kalyani Pub.
12. Rice F.P. (2001) Human Development
13. Suriakanthi .A. (1997) Child Development Kavitha Pub.

PAPER III  
FAMILY RESOURCE MANAGEMENT

6 Hours/ week

Objectives

To enable the students to:-

- Understand the significance of resource management
- Improve the quality of life
- Realize the importance of the effective role of consumer in the market
- Develop an understanding of household equipment
- Gain knowledge in the principles of planning residential space
- Have better understanding of the principles of art and design
- Apply theoretical knowledge in the practical life in the cottage

Unit-I

Course content: Theory

Principles of Resource Management

1. Meaning and definition of home management.
2. Steps involved in the process of management.
3. Decision making-meaning, types, steps, methods of resolving conflict.
4. Values goals and standards.
5. Qualities of a good manager.
6. Family life cycle-stages, management of resources during various stages of family life cycle.
7. Resource-definition and classification.
8. Management of energy- types of fatigue, methods to overcome fatigue, work simplification, classes of change.
9. Management of time- Tools in time management, steps in making a time schedule, utilization of leisure time.
10. Management of money- family income, types of income, source, guidelines in moneymangement, account keeping, financial records of the household, methods of supplementing family income, economics of household purchase
11. Family expenditure- Family budget, types items in the budget importance of budgeting, steps in making family budget, Engel's law of consumption.
12. Savings- Institutions and schemes promoting investments.
13. Consumer education- meaning, consumer problems, consumer rights and responsibilities, consumer legislations, consumer aids.
14. Waste management-Classification, 3R's of waste management, wealth out of waste.

- ✓ Resilience course: Introduction, aims and objectives, organization of residence, management of resources during residence course, managerial experiences

### Related Experiences

1. Record the techniques adopted by the homemakers to conserve any one resource.
2. Record the leisure time activities of homemakers.
3. Determination of working heights for cooking and for storage in the kitchen.
4. Prepare a model family budget.
5. Create any art object out of waste.
6. Residence stay for one week incorporating principles of resource management, housing interior decoration as the practical with internal and external assessment

## UNIT-II

### Course Content: Theory

#### Housing, Interior Decoration and Equipment

1. Functions of house.
2. Selection of site, Principles of planning a house.
3. House plans for various income groups- lows, middle, and high. ✓
4. Kitchen arrangements- types, principles of planning kitchen, modular kitchen. ✓
5. Home lighting- types of lighting, lighting for different rooms.
6. Landscape gardening- objectives, types, garden features and ornamentation, routine duties in gardening, indoor plants.
7. Design- definition, types of design, elements of design, principles of design.
8. Colour- Prang colour system, qualities of colour, colour schemes, and uses of colour.
9. Furniture- selection, guidelines for arranging furniture, furniture requirements for various rooms
10. Furnishing- classification of home furnishing, selection of soft furnishing, curtain styles, selection of rugs and carpets
11. Accessories - classification and their role in interior decoration, picture mounting principles. Flower arrangement- principles, styles and types.
12. Equipment for the home- Classification, factors affecting the selection, use and care of household equipment such as gas stove; oven- conventional, microwave, cooking range, cookers- pressure cooker, rice cooker, thermal cooker; food mixers and grinders; refrigerator; dish washer, washing machine.
13. Household fuels- classification, solid, liquid, gas, electricity and solar energy; conservation of household fuels.

### Related experience

1. Types of designs- Structural and decorative designs (sketch)

3. ✓ Elements of designs-three application
4. ✓ Principles of designs-Illustrations.
4. ✓ Prang colour wheel and colour schemes.
5. Furniture arrangement of any one room.
6. Different curtain styles
7. ✓ Flower arrangement- basic shapes (sketch) and one Japanese style.

#### References

1. Nickel P and Dorsey J .M. 1976 -Management in family living. Wiley Eastern private Ltd New Delhi.
2. Gross I.M. and Grandall.D.1973- Management for modern families.
3. Premlata Müllick 2001 -Text book of Home science, Kalyani Publishers Ludhiana..
4. M.A.Varghese, N.NOgale, 1996, Home management.
5. Agarwall. A.N. -Indian Economy, Vikas publishing company.
6. Agrarwall,A.D. 1989 -A practical hand book for consumers, India Book House, Bombay.
7. Gordon-Economics of consumers.
8. Agan.T. The House and its plan and use, J.P. Lippnott Company, New York 1986.
9. Despande R.S. Modern Ideal Homes for India, United Book Corporation Poona.1995.
10. Bhat Pranav and Goenka Shanika 1990- The Foundation of art and design, Lakshmi Book Dept Bombay.
11. Craig and Rush C.D.-1962 Homes with character, Doc. Heath and company Boston.
12. Anna. H. Ruth 1962 Home furnishing, John Wiley Eastern Pvt Ltd, New York
13. Goldstein.H and GoldsteinV 1976 Art in every day life Macmillan Company New York
14. Faulkner.R. and Faulkner S. 1974 Inside Today' Home, Holt Rinehart and Wonton Inc New York
15. Andes Sally 1964 Enjoy Flower Arranging, Faber and Faber 24 Russell Square, London.
16. Supriya Kumar Bhatacharjee 2004 Landscape gardening and design with plants, Anvishkar Publishers Jampur
17. Sparnon 1970 A guide to Japanese flower arrangement ShufuJoneCo. Ltd,Japan.

FOOD SCIENCE AND NUTRITION

8 hours /week

Objectives

1. To get acquainted with different food stuffs, terminology, techniques and procedures used in cooking.
2. To know about the hygienic habits in relation to food preparations.
3. To provide knowledge on nutrients and their relevance to human nutrition.
4. To familiarise the students with principles involved in planning adequate meals for individuals in normal and diseased conditions.

Unit I

FOOD SCIENCE

Course content: Theory

I. Introduction to Food Science: Functions of food, nutrients and their function, Food groups- basis and use.

II. Study of Foods

1. Cereals
  - a. Structure and nutritive composition of wheat and rice.
  - b. Processing of rice (parboiling, milling, parching, and flaking).
  - c. Commonly used cereals and millets and their products.
2. Pulses
  - a. Common pulses used in India.
  - b. Nutritive value.
  - c. Processing- sprouting, fermentation and cooking
  - d. Lathyrism
3. Nuts and Oil seeds
  - a. nutritive value
4. Milk
  - a. Nutritive composition
  - b. Processing- Pastuerisation, coagulation fermentation, homogenization.
  - c. Milk products
5. Vegetables
  - a. Classification
  - b. Nutritive value
  - c. Vegetable pigments
  - d. Vegetable cookery
6. Fruits
  - a. Nutritive value
  - b. Changes during ripening

- c. Darkening of fruits
- d. Preservation
- 7. Eggs
  - a. Nutritive composition and structure
  - b. Characteristics of fresh eggs
  - c. Culinary roles
- 8. Meat
  - a. Structure and Nutritive composition
  - b. Changes on cooking
  - c. Tenderness of meat
- 9. Fish
  - a. Classification
  - b. Selection
  - c. Nutritive value and composition
- 10. Fats and Oils
  - a. Classification
  - b. Rancidity
  - c. Culinary role
- 11. Beverages
  - a. Stimulating
  - b. Non-stimulating
  - c. Miscellaneous
- 12. Spices-Major spices of India

### III. Methods of Cooking, Basic principles of food preservation

### IV. Food Adulteration- types, simple tests to detect adulteration, enforcement agencies

### V. Development in the field of food science: functional foods, genetically modified foods, single cell protein, fast foods.

## Related Experiences

### I. Food Preparation

- a. Record the weight of 1 cup / 1tbsp/ 1tsp of different types of food stuffs.
- b. Record the ratio of raw to cooked volume of rice, rava, dhal, potato.
- c. Food Preservation – pickles, jams, squash, sauce.
- d. Simple preparations using cereals, pulses, milk, vegetables, fruits, eggs, meat, and fish. Calculate the nutritive value of any two nutrients and cost of two recipes of a main dish, side dish, snacks, and desserts using the above food stuffs.

2. Demonstration on
  - a. The effect of acid and alkali on vegetable pigments.
  - b. Methods to prevent darkening of fruits
  - c. Stages of sugar cookery
3. Preparation of weaning recipes, preschool snacks and therapeutic recipes.  
(Experiences 1 to 3 need not be recorded)

## Unit- II

### NUTRITION AND DIETETICS

#### Course Content: Theory

##### I. Study of Nutrients:

1. Carbohydrates: Classification, functions, digestion, absorption, and metabolism, blood glucose. Glycemic Index, Fibre-types and nutritional significance.
2. Fat: Classification, functions, digestion, absorption and metabolism. Role and significance of MUFA, PUFA (omega3 and omega6 fatty acids)
3. Protein: Classification and functions, classification of amino acids based on their nutritive value, digestion, absorption and metabolism, RDA, assessment of protein quality (BV, PER, NPU) factors affecting protein bio availability (anti nutritional factors), supplementary value of proteins.
  1. Vitamins: Classification, physiological sources, RDA, deficiency and toxicity.
  2. Minerals: Physiological role, requirements, sources, RDA, deficiency and toxicity of Ca, P, Mg, Fe, Fl, Zn, Se, Na, K and I.
  3. Water: Functions, requirements and water balance.

II. Study of Energy: Energy balance, deficiency, excess, BMR, factors influencing BMR energy value of foods, physiological fuel value, measurement of total energy requirement (TER) and factors influencing.

### III. Normal and Therapeutic Nutrition

1. Meal Planning: Principles of meal planning, Planning normal diets at various stages of family life cycle-weaning, preschool, school going, adolescence, adulthood, pregnancy, lactation and old age.

2. Diet Therapy: Principles of diet therapy, classification of therapeutic diets-liquid, solid and bland diet, parenteral and enteral diet, role of dietician.

3. Diet in diseases of-

- (a) Gastro intestinal tract -peptic ulcer, colitis and constipation.
- (b) Liver- hepatitis and cirrhosis.
- (b) Kidney- glomerulonephritis
- (c) Cardiovascular-hypertension and artherosclerosis
- (d) Diabetes mellitus
- (e) Iron deficiency anaemia
- (f) Protein energy malnutrition
- (g) Obesity and underweight
- (h) Fevers-typhoid and tuberculosis

#### Related experiences

I. Food Analysis: Qualitative tests for carbohydrates, proteins, calcium, phosphorous and iron. Quantitative tests for lactose (in milk), Vitamin .C (food stuffs), Calcium (food)

#### II. Meal Planning

1. Normal Diets- Planning, preparing and serving diets for –

- a. Preschool child
- b. School going child
- c. Adolescents
- d. Adults (sedentary man and woman, labourer)
- e. Pregnant woman
- f. Lactating woman
- g. Old age (moderately active man and woman)

2. Therapeutic diets-Planning, preparing and serving diets for-

- a. Peptic ulcer, constipation
- b. Hepatitis, cirrhosis

- c. Acute glomerulonephritis
- d. Hypertension, atherosclerosis
- e. Iron deficiency anaemia
- f. Diabetes mellitus
- g. Kwashiorkor
- h. Obesity, overweight
- i. Typhoid, tuberculosis

## II. Height and weight measurements

Record height and weight and score general nutritional condition by comparison with standards

### References

1. Abraham.S. 1998 Nutrition in everyday life, Kirti publishing house, Coimbatore
2. M. Swaminathan. 1987. Food science chemistry and experimental foods, the Bangalore printing and publishing Co. Ltd
3. Mudambi & Rajagopal, Fundamentals of Food and Nutrition, Wiley eastern Ltd. Madras
4. Shankuntala Many & Shadasharswamy, 1987. Foods facts and principles, Wiley Eastern Ltd, Madras.
5. Bamji.S. M. 1996, Textbook of Human Nutrition, Oxford & IB publishing Co. N. Delhi
6. Davidson and Passmore, Human nutrition and dietetics, Livingston Ltd. London
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12. Swaminathan.M. 1995 Handbook of food and Nutrition, Bangalore printing and publishing company ltd.
13. Y.K. Joshi 2003. Basics of clinical nutrition, JP Brothers, Delhi
14. Norman. P, Food Science, CBS Publishers and Distributors, N. Delhi.

**PAPER V**  
**TEXTILE SCIENCE AND FASHION DESIGNING**

7 hours per week

**Objectives:**

1. To give the students an understanding of the production, properties and uses of fibres, yarns and fabric.
2. To develop the ability to know how to purchase fabric and how to care them.
3. To acquire the ability and skill of selecting and constructing clothing and other house hold articles.

**Course Content: Theory**

**UNIT I**

**TEXTILE SCIENCE**

1. Classification of fibers: (a) definition of a fibre (b) properties- physical and chemical (c) classification (d) characteristics of each group of fibres in general.
2. Production, properties and use of major fibers- cotton, linen, silk, wool, rayon, nylon, and polyester.
3. Methods of identification of fibres (a) physical (b) microscopic (c) burning (d) chemical.
4. Process of making fibre into yarn: Spinning- hand, mechanical and modern; Definition of yarn- type, size, twist, number of parts and novelty yarns.
5. Process of making yarn into fabric: Weaving- Loom, parts, and operations. Weaves-Basic weaves- plain, twill and satin. Fancy weaves- pile, leno, double cloth, jacquard, dobby, lappet, clip spot, crepe. Characteristics of woven fabrics: Yarns- warp and weft, Grain, Thread count, Balance, Selvages, Width, Properties. Other methods of making fabrics- knitting, felting, brading, netting, lace making, bonding, laminating.
6. Fabric finishes: Definition, purpose, classification and types- singeing, sanforizing, fulling, tendering, sizing, weighting, moireing, brushing, beetling,

napping, schreimerizing, crepe and crinkled effect, crease resistance, water repelling, flame proofing, mildew proofing.

7. Dyes and Dyeing: Classification of dyes- natural, direct, basic, acid, vat, sulphur and mordents. Stages of dyeing- stock, yarn, piece, union and cross. Methods of dyeing- jet, jig, winch, beam dyeing.
8. Printing methods: Block, roller, screen, resist, discharge, tie and dye and batik. Recent trends in printing methods.
9. Care of fabrics: - Laundering- Water- hard and soft, detergents, bleaches, blues, stiffening agents. Laundering methods for different fabrics, stain removal and dry cleaning. General storage of fabrics.

#### RELATED EXPERIANCES:

- 1 Collection of fibres studied.
- 2 Collection of all the weaves studied.
- 3 Collection of samples to show the different printing methods.
- 4 Identification of fibres by burning, microscopic, chemical and visual tests.

### UNIT II

#### FASHION DESIGNING

1. Elements and principles of design as applied to apparel designing.
2. Steps in wardrobe planning. Selection of garments- saris, salwar- kameez, shirts, and children's clothing.
3. An introduction to costumes of ancient Egypt and France (16<sup>th</sup> and 17<sup>th</sup> century).
4. Traditional textiles and embroideries of India.
5. Garment Construction: (a) Body Measurements (b) Methods of garment construction (c) Steps in preparing garments for construction (d) Sewing equipments (e) Sewing Machine.
6. Fundamentals of fashion designing.
  - a) Fashion Definition, Fashion terms, Fashion lifecycle, Fashion trends, Fashion forecasting and present day Fashion.
  - b) A brief introduction to designing, production and sales of garments.

## RELATED EXPERIENCES:

- 1 Stitches- hand, decorative including three traditional embroidery.
- 2 Seams and seam finishes.
- 3 Fullness- Gathers, tucks, Pleats and darts.
- 4 Fasteners.
- 5 Plackets: Continuous, bound and faced.
- 6 Bias and its application
- 7 Neckline Finishes.
- 8 Collars- flat, peter pan, Chinese.
- 9 Sleeves- set in, kimono, raglan.
- 10 Hems.
- 11 Fundamentals of fashion designing: Basic figure sketching, designing of various garments
- 12 Construction of garments- Frock, churidar/salwar, churidar top and blouse
- 13 Knowledge of textiles available through visits to shops or mills.

## REFERENCES:

- 1 Corbman B.T., Fibre to fabrics, Mc Graw Hill Comp.
- 2 Dantyagi. S., Fundamentals of Textiles and their care. Orient Longman.
- 3 Deulkar and Durga: House Hold textiles and laundry works. Atmaram and Sons.
- 4 Dickerson K.G. Inside the Fashion Business.
- 5 Gale. E., From Fibres to Fabrics. Alman and Sons Ltd.
- 6 Hollen. N., Textiles, Mc Millan Comp.:
- 7 Joseph. M., Introductory Textile Science, Holt, Rinehart and Winston.
- 8 Kadolph. S. J., Textiles, Anne Longford, Prentice Hall.
- 9 Lester. K.T., History of costumes- A bent and Co., illinois.
- 10 Mathews. M., Practical Clothing Construction. Part I.
- 11 Mathews. M., Practical Clothing Construction Part II
- 12 Mehta R. J., Master Pieces of Indian Textiles.
- 13 Thomas and Rea. Clothing for Children, John Wiley and Sons, New York.
- 14 Wingate, Textile Science and their Selection. Prentice Hall.

4 hours/week

Marks:

Internal-10

External-50

Total-60 (Theory)

Record-10 (Practical)

**Objectives**

To enable students to:

1. Understand the sociological concept of Extension.
2. Acquire knowledge and skill in communication techniques.
3. Understand the national efforts in rural and urban development.
4. Gain knowledge in the selection, preparation and use of communication materials.
5. Explain the role of different media in development communication.

**Course content: Theory**

**UNIT-I**  
**Extension**

1. Extension- Meaning of Extension, objectives of extension education in India. Role of extension in community development. Criteria for effective extension teaching, steps in extension teaching, qualities of an extension worker.
2. Community development-Meaning and objectives of community development, Special features of rural, urban and tribal communities in India.
3. Extension at the grass root level-The Panchayat Raj.  
Basic rural institutions (Community organizations)-Panchayats, co-operatives and schools; Local organizations of people like Mahila Mandals and youth clubs.  
Role of community organizations in community development.
4. Leadership-Concept and definitions, types of community leaders. Methods of identifying and training community leaders. Leadership for community development.
5. Programme Planning in Extension-Objectives, Principles, steps involved in extension programme planning
6. Programmes for rural and urban community development in India.

- Direct anti-poverty Alleviation programme-Swarnajayanti GramSwarozgar Yojana (SSRY), Sampoorna Grameen Rozgar Yojaana-(SGRY), National Food For Work Programme (NFFWP), Indira Awas Yojana (IAY)
- Urban poverty Alleviation schemes-Swaran Jayanti Shahri Rozgar Yojana (SSRY), schemes for slums.
- Indirect programmes-Public Distribution System (PDS), Food and Nutrition Security (Committee)
- Programmes for women and children-Development of Women and Children in Rural Areas (DWCRA), Integrated Child Development Services (ICDS)Indira Mahila Yojana(IMY).

## Unit II

### Mass Communication

1. **Communication Process- Meaning and Importance (functions) of communication in development, Elements of extension communication system. Factors that help or hinder communication**
2. **Extension teaching methods (Communication methods)-Classification- individual, group and mass methods, advantages and limitations of different methods**
3. **Audio-visual aids used for communication- importance of audio visual aids in communication, classifications, their merits and demerits, criteria for the selection and evaluation of Audio-Visual aids, effective use of Audio Visual Aids**
4. **Media for development communication:**
  - **Print Media** - Their significance, use, simple writing for communication, Simple illustrations, drawings, sketches, cartoons and comics.
  - **Electronic Media- Radio, Television, film, video, Internet. Their characteristics and use in India. Principles of script writing for radio and TV programmes.**
  - **Folk media - Folk songs, Folk dances, Drama, Puppet show. Their characteristics and use.**

### Related Experiences

- 1 Development and use of education materials in extension work.
- 2 Script writing for radio/ TV Programme
- 3 Collection and display of printed materials like leaflets, pamphlets, folders etc and evaluate of their suitability

M G UNIVERSITY  
KOTTAYAM

# COMPUTER APPLICATIONS- ELECTIVE VI

4 hours /week

## Objectives

1. To enable the students to know the basics of computers.
2. To learn to use computers for education, information and research.

## Course content: Theory

### Unit I

#### COMPUTER BASICS

**1. Computer Fundamentals-**An overview about computers, components of a computer, input/output devices, and secondary storage devices.

Number systems: decimal, binary, octal and hexadecimal.

Representation of information-BCD, EBCDIC, ASCII

Representation of data: files, records. Introduction to operating system.

**2. Introduction to Windows-**Introduction, exploring the desktop, running multiple programme, accessories, control panel, managing documents and folders.

**3. Ms-Word-** Starting Ms word, creating and formatting a document, find and replace, changing fonts and point size, table creation and operations ,auto correct auto text, spell check, thesaurus, word art, inserting objects, mail merge ,letter, file protection, label ,envelope, page setup, page preview, and printing a document

#### Related Experiences

1. Creation of files using operating systems- Windows, DOS
2. Creating letter files.
3. Document merging.

1. Ms-Excel- Starting excel, work sheet cell, inserting data into rows/columns, alignment, text wrapping, sorting data, auto sum, use of functions, referencing formula cells in other formulae, naming cells and ranges, goal seek, generating graphs, integrating work sheet data and charts with word , creating hyperlink to a word document, page set up, print preview, printing work sheets.

2. Ms PowerPoint-Starting Ms-power point, auto wizard, creating a presentation using auto content wizard, blank presentation, creating, saving and printing a presentation, adding a slide to a presentation, navigating through a presentation, slide sorter, slide show, editing slide, using clip art, word art gallery, adding transmissions and animation effects, setting timings for slide show preparing note pages, preparing audience handouts, printing presentation documents.

3. Internet- Genesis and use of internet, software and hardware requirements for internet, accessing the internet, web pages, using a search engine, accessing the internet for Ms office applications.

#### Related Experiences

1. Excel- Create spread sheet file

Scenario; goal seek, auditing

Data validation, consolidation, filter command, advanced filter, auto filter.

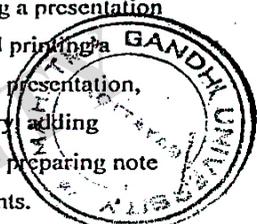
Conditional formatting

2. Power point- Design a power point presentation and do custom animation.

3. Visit a web site for collecting information, print a portion of text from webpage save web page to desk top.

#### References

1. Subramaniam S. *Introduction to Computers*.
2. Norton Peter *Introduction to Computers*
3. Nagpal, D.P. *Mastering Microsoft OFFICE 2000*
4. P.K. Sinha *Computer Fundamentals*



**B.Sc. CHEMISTRY(SUBSIDIARY)**

**Paper I - General Chemistry**

**PAPER I A (45 Hrs)**

**1 Introduction to Environmental Chemistry (8 Hrs)**

Environment and its segments, Eco Systems- Bio -Geo-chemical cycles of Carbon, Nitrogen Phosphorus and Sulphur.

**2. Hydro chemistry-Hydrological cycle-water resources-aquatic ecosystems (12 Hrs)**

Water quality parameters-dissolved oxygen-B.O.D and C.O.D, Methods of detection of Fluoride, Chloride, Sulphate, nitrate, phosphate, alkalinity and acidity of water-Pollutants of water-Sewage, industrial effluents soap and detergents, pesticides, fertilizers, heavy metals, the metabolic fate and toxic effect of pollutants. Water purification methods - Sedimentation, coagulation, filtration, disinfection, ion exchange, Desalination.

**3. Air Pollution (8 Hrs)**

Major regions of atmosphere, pollution by oxides of Nitrogen Sulphur, Carbon, hydrocarbon and other organic chemicals, automobile exhausts, their physiological effects on vegetation and living organisms, Controlling of pollution - methods for industrial pollutants and automobile exhausts other atmosphere- ozone layer and its formation and its importance- depletion of ozone layers-causes- effect on living things-Green- house effect, global warming-acid rain.

**4. Fertilisers (6 Hrs)**

Classification- direct, indirect, complete, incomplete, natural, inorganic-fertilizers. Potassium Salts, Rock phosphate, Artificial inorganic fertilisers, Ammonium Sulphate-Ammonium phosphate, Calcium cyanamide, Super phosphate Urea -NPK value. Environmental hazards associated with the artificial fertilisers.

**5. Plant protection Chemicals (6 Hrs)**

Classification insecticides fungicides, herbicides, important examples. Chloro hydrocarbon. Organic phosphorus compounds, Organic mercuric compounds. Copper compounds Toxicity and environmental hazards.